

Application/Control Number: 10/009,365

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04/29/02

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1-6 claims are canceled

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--7. (new) Vehicle electrical system configuration system for automated configuration of vehicle electrical systems, which comprise hardware components at least partially connected to a data bus network and software components implemented in at least a portion of the hardware components for executing corresponding functionalities, comprising:

a central actual configuration data memory arranged in a vehicle for accessible storage of an actual configuration data set characterizing an actual configuration of the vehicle electrical system;

wherein the actual configuration data memory is in direct or indirect communication with all hardware components; and

further wherein the actual configuration data in the actual configuration data memory are stored in an XML file format and data on their structure are filed in a corresponding document type definition file (DTD).

8. (new) Vehicle electrical system configuration system for automated configuration of vehicle electrical systems, which comprise hardware components at least partially connected to a data bus network and software components implemented in at least a portion of the hardware components for executing corresponding functionalities, comprising:

a central actual configuration data memory arranged in a vehicle for accessible storage of an actual configuration data set characterizing an actual configuration of the vehicle electrical system;

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wherein the actual configuration data memory is in direct or indirect communication with all hardware components; and

further comprising browser tools for reproduction of the actual configuration data in at least one of a tree structure depiction, a functional depiction, and a topology depiction.

9. (new) Vehicle electrical system configuration system for automated configuration of vehicle electrical systems, which comprise hardware components at least partially connected to a data bus network and software components implemented in at least a portion of the hardware components for executing corresponding functionalities, comprising:

a central actual configuration data memory arranged in a vehicle for accessible storage of an actual configuration data set characterizing an actual configuration of the vehicle electrical system;

wherein the actual configuration data memory is in direct or indirect communication with all hardware components;

further wherein the actual configuration data in the actual configuration data memory are stored in an XML file format and data on their structure are filed in a corresponding document type definition file (DTD); and

further comprising browser tools for reproduction of the actual configuration data in at least one of a tree structure depiction, a functional depiction, and a topology depiction.

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10. (new) Vehicle electrical system configuration system according to Claim 7, wherein the actual configuration data memory comprises a flash memory component of a control device component, which functions as a gateway between the vehicle electrical system and a connectable system external to the vehicle.

11. (new) Vehicle electrical system configuration system according to Claim 8, wherein the actual configuration data memory comprises a flash memory component of a control device component, which functions as a gateway between the vehicle electrical system and a connectable system external to the vehicle.

12. (new) Vehicle electrical system configuration system for automated configuration of vehicle electrical systems, which comprise hardware components at least partially connected to a data bus network and software components implemented in at least a portion of the hardware components for executing corresponding functionalities, comprising:

- a topology configuration system component for entry of data on types of usable hardware components and on their data network connection;

- a hardware component configuration system component for selecting and/or newly developing hardware components of the respective type;

- a vehicle configuration system component for computer-assisted automatic configuration of a respective vehicle electrical system in dependence on definable

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objectives and using the topology configuration system component and the hardware configuration system component; and

graphic user/system interface tools for menu-directed user control during the activity of the topology configuration system component, the hardware component configuration system component, and the vehicle configuration system component.

13. (new) Vehicle electrical system configuration system according to claim 7, further comprising:

a topology configuration system component for entry of data on types of usable hardware components and on their data network connection;

a hardware component configuration system component for selecting and/or newly developing hardware components of the respective type;

a vehicle configuration system component for computer-assisted automatic configuration of a respective vehicle electrical system in dependence on definable objectives and using the topology configuration system component and the hardware configuration system component; and

graphic user/system interface tools for menu-directed user control during the activity of the topology configuration system component, the hardware component configuration system component, and the vehicle configuration system component.

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14. (new) Vehicle electrical system configuration system according to claim 8, further comprising:

a topology configuration system component for entry of data on types of usable hardware components and on their data network connection;

a hardware component configuration system component for selecting and/or newly developing hardware components of the respective type;

a vehicle configuration system component for computer-assisted automatic configuration of a respective vehicle electrical system in dependence on definable objectives and using the topology configuration system component and the hardware configuration system component; and

graphic user/system interface tools for menu-directed user control during the activity of the topology configuration system component, the hardware component configuration system component, and the vehicle configuration system component.

15. (new) Vehicle electrical system configuration system according to claim 10, further comprising:

a topology configuration system component for entry of data on types of usable hardware components and on their data network connection;

a hardware component configuration system component for selecting and/or newly developing hardware components of the respective type;

a vehicle configuration system component for computer-assisted automatic configuration of a respective vehicle electrical system in dependence on definable

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objectives and using the topology configuration system component and the hardware configuration system component; and

graphic user/system interface tools for menu-directed user control during the activity of the topology configuration system component, the hardware component configuration system component, and the vehicle configuration system component.

16. (new) Vehicle electrical system configuration system according to claim 7, further comprising:

reconfiguration tools for computer-assisted automatic reconfiguration of a respective vehicle electrical system during replacement of at least one component with at least one new component with a like function but of a different type, or during an addition of at least one additional component for a new functionality, or during modification of at least one component relationship.

17. (new) Vehicle electrical system configuration system according to claim 8, further comprising:

reconfiguration tools for computer-assisted automatic reconfiguration of a respective vehicle electrical system during replacement of at least one component with at least one new component with a like function but of a different type, or during an addition of at least one additional component for a new functionality, or during modification of at least one component relationship.

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18. (new) Vehicle electrical system configuration system according to claim 10, further comprising:

reconfiguration tools for computer-assisted automatic reconfiguration of a respective vehicle electrical system during replacement of at least one component with at least one new component with a like function but of a different type, or during an addition of at least one additional component for a new functionality, or during modification of at least one component relationship.

19. (new) Vehicle electrical system configuration system according to claim 12, further comprising:

reconfiguration tools for computer-assisted automatic reconfiguration of a respective vehicle electrical system during replacement of at least one component with at least one new component with a like function but of a different type, or during an addition of at least one additional component for a new functionality, or during modification of at least one component relationship.

20. (new) Vehicle electrical system configuration system according to claim 7, further comprising:

knowledge-aging tools, which assign a degree of currentness to stored configuration data in dependence on their age and frequency of configuration use, wherein said knowledge-aging tools remove the configuration data from a valid configuration data set when their degree of currentness has dropped below a definable threshold, and/or wherein, for existing reconfiguration tools, the

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degree of currentness is said existing reconfiguration tools first use, and for the case of multiple possible components, configuration strategies, and/or component relationships, those with the highest degree of currentness.

21. (new) Vehicle electrical system configuration system according to claim 8, further comprising:

knowledge-aging tools, which assign a degree of currentness to stored configuration data in dependence on their age and frequency of configuration use, wherein said knowledge-aging tools remove the configuration data from a valid configuration data set when their degree of currentness has dropped below a definable threshold, and/or wherein, for existing reconfiguration tools, the degree of currentness is said existing reconfiguration tools first use, and for the case of multiple possible components, configuration strategies, and/or component relationships, those with the highest degree of currentness.

22. (new) Vehicle electrical system configuration system according to claim 10, further comprising:

knowledge-aging tools, which assign a degree of currentness to stored configuration data in dependence on their age and frequency of configuration use, wherein said knowledge-aging tools remove the configuration data from a valid configuration data set when their degree of currentness has dropped below a definable threshold, and/or wherein, for existing reconfiguration tools, the degree of currentness is said existing reconfiguration tools first use, and for the

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case of multiple possible components, configuration strategies, and/or component relationships, those with the highest degree of currentness.

23. (new) Vehicle electrical system configuration system according to claim 12, further comprising:

knowledge-aging tools, which assign a degree of currentness to stored configuration data in dependence on their age and frequency of configuration use, wherein said knowledge-aging tools remove the configuration data from a valid configuration data set when their degree of currentness has dropped below a definable threshold, and/or wherein, for existing reconfiguration tools, the degree of currentness is said existing reconfiguration tools first use, and for the case of multiple possible components, configuration strategies, and/or component relationships, those with the highest degree of currentness.

24. (new) Vehicle electrical system configuration system according to claim 16, further comprising:

knowledge-aging tools, which assign a degree of currentness to stored configuration data in dependence on their age and frequency of configuration use, wherein said knowledge-aging tools remove the configuration data from a valid configuration data set when their degree of currentness has dropped below a definable threshold, and/or wherein, for existing reconfiguration tools, the degree of currentness is said existing reconfiguration tools first use, and for the

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case of multiple possible components, configuration strategies, and/or component relationships, those with the highest degree of currentness.--

ABSTRACT OF THE DISCLOSURE

The invention relates to an automobile electrical installation configuration system for automatically configuring the electrical installations in automobiles, comprising hardware components connected at least partially to a data bus network and software components installed in at least part of said hardware components for executing corresponding functions. According to the invention, a central actual configuration data storage is provided, which is mounted on the vehicle side, for retrievable storage of an actual configuration data set characterizing the actual configuration of the corresponding electrical installations of the vehicle, whereby the storage directly or indirectly communicates with all hardware components. The system additionally or alternatively includes a topology configuration system part, a hardware component configuration system part and a vehicle configuration system part, in addition to a graphic user interface for menu-controlled user guidance. The inventive system can be used, for instance, for automatic client-specific configuration of electrical installations in automobiles.--